

Office
JUL 07 2004

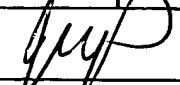
Substitute for form 1449A PTO				Application Number	10/644,112
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Filing Date	August 20, 2003
				First Named Inventor	Ronald D. Blum
				Art Unit	2873
				Examiner Name	Unassigned
Sheet	1	of	2	Attorney Docket Number	63049.000088

U.S. PATENT DOCUMENTS

*Examiner Initials	Cite No.	DOCUMENT NUMBER Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
ef	1	US- 5,386,308	1-31-1995	Michel et al.	
	2	US-			
	3	US-			
	4	US-			
	5	US-			
	6	US-			
	7	US-			
	8	US-			
	9	US-			
	10	US-			
	11	US-			
	12	US-			
	13	US-			
	14	US-			

FOREIGN PATENT DOCUMENTS

*Examiner Initials	Cite No.	FOREIGN PATENT DOCUMENT		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TRANSLATION	
		Country Code:	Number - Kind Code (if known)				YES	NO
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	7						<input type="checkbox"/>	<input type="checkbox"/>

EXAMINER SIGNATURE 	DATE CONSIDERED 12/21/04
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

JUL 07 2004

PTO/SB/08A (10/01) (modified)
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number 10/644,112

Filing Date August 20, 2003

First Named Inventor Ronald D. Blum

Art Unit 2873

Examiner Name Unassigned

Sheet

2

of

2

Attorney Docket Number 63049.000088

OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS

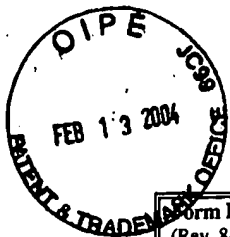
*Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
ei	1	M. ANDERSON, "Adaptive Optics: Liquid Crystals Lower the Cost of Adaptive Optics", <u>Laser Focus World</u> , December 1999	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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EXAMINER SIGNATURE

DATE CONSIDERED

12/4/04

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Sheet 1 of 10

Form PTO-1449
(Rev. 8-83)U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.: 63049.000088

Application No.: 10/644,112

**INFORMATION DISCLOSURE
STATEMENT**

(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date: August 20, 2003

Group: 2873

U.S. PATENT DOCUMENTS

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
EF	1	Re. 35,691	12/16/97	Theirl et al.	—	—	
EF	2	D 298,250	10/25/88	Kildall	—	—	
EF	3	D 342,063	12/7/93	Howitt et al.	—	—	
EF	4	D 350,342	9/6/94	Sack	—	—	
EF	5	2,437,642	3/9/48	Henroteau	—	—	
EF	6	2,576,581	11/27/51	Edwards	—	—	
EF	7	3,161,718	12/15/64	de Luca	—	—	
EF	8	3,245,315	4/12/66	Marks et al.	—	—	
EF	9	3,614,215	10/19/71	Mackta	—	—	
EF	10	3,738,734	6/12/73	Tait et al.	—	—	
EF	11	4,174,156	11/13/79	Glorieux	—	—	
EF	12	4,181,408	1/1/80	Senders	—	—	
EF	13	4,190,330	2/26/80	Berremann	—	—	

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Date Considered:

12/4/04

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Sheet 2 of 10

Form PTO-1449
(Rev. 8-83)U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.: 63049.000088

Application No.: 10/644,112

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(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date: August 20, 2003

Group: 2873

U.S. PATENT DOCUMENTS

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
<i>EF</i>	14	4,264,154	4/28/81	Peterson	—	—	
<i>EF</i>	15	4,279,474	7/21/81	Belgorod	—	—	
<i>EF</i>	16	4,300,818	11/17/81	Schachar	—	—	
<i>EF</i>	17	4,373,218	2/15/83	Schachar	—	—	
<i>EF</i>	18	4,395,736	7/26/83	Fraleux	—	—	
<i>EF</i>	19	4,418,990	12/6/83	Gerber	—	—	
<i>EF</i>	20	4,457,585	7/3/84	DuCorday	—	—	
<i>EF</i>	21	4,466,706	8/21/84	Lamothe, II	—	—	
<i>EF</i>	22	4,529,268	7/16/85	Brown	—	—	
<i>EF</i>	23	4,564,267	1/14/86	Nishimoto	—	—	
<i>EF</i>	24	4,572,616	2/25/86	Kowel et al.	—	—	
<i>EF</i>	25	4,577,928	3/25/86	Brown	—	—	
<i>EF</i>	26	4,601,545	7/22/86	Kern	—	—	
<i>EF</i>	27	4,609,824	9/2/86	Munier et al.	—	—	
<i>EF</i>	28	4,712,870	12/15/87	Robinson et al.	—	—	
<i>EF</i>	29	4,756,605	7/12/88	Okada et al.	—	—	

Examiner:

Date Considered:

12/21/04

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Sheet 3 of 10

Form PTO-1449
(Rev. 8-83)U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.: 63049.000088

Application No.: 10/644,112

**INFORMATION DISCLOSURE
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(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date: August 20, 2003

Group: 2873

U.S. PATENT DOCUMENTS

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
el	30	4,772,094	9/20/88	Sheiman	—	—	
el	31	4,795,248	1/3/89	Okada et al.	—	—	
el	32	4,818,095	4/4/89	Takeuchi	—	—	
el	33	4,836,652	6/6/89	Oishi et al.	—	—	
el	34	4,880,300	11/14/89	Payner et al.	—	—	
el	35	4,904,063	2/27/90	Okada et al.	—	—	
el	36	4,907,860	3/13/90	Noble	—	—	
el	37	4,919,520	4/24/90	Okada et al.	—	—	
el	38	4,927,241	5/22/90	Kuijk	—	—	
el	39	4,929,865	5/29/90	Blum	—	—	
el	40	4,930,884	6/5/90	Tichenor et al.	—	—	
el	41	4,945,242	7/31/90	Berger et al.	—	—	
el	42	4,952,788	8/28/90	Berger et al.	—	—	
el	43	4,958,907	9/25/90	Davis	—	—	

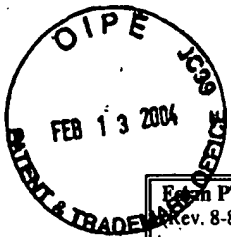
Examiner:

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Sheet 4 of 10

Form PTO-1449 U.S. Department of Commerce (Rev. 8-83) Patent and Trademark Office		Atty. Docket No.: 63049.000088		Application No.: 10/644,112			
INFORMATION DISCLOSURE STATEMENT							
(Use several sheets if necessary)							
Applicant: Ronald D. Blum et al.							
Filing Date: August 20, 2003				Group: 2873			
U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
EP	44	4,961,639	10/9/90	Lazarus	—	—	
EP	45	4,968,127	11/6/90	Russell et al.	—	—	
EP	46	4,981,342	1/1/91	Fiala	—	—	
EP	47	4,991,951	2/12/91	Mizuno et al.	—	—	
EP	48	5,015,086	5/14/91	Okaue et al.	—	—	
EP	49	5,030,882	7/9/91	Solero	—	—	
EP	50	5,066,301	11/19/91	Wiley	—	—	
EP	51	5,073,021	12/17/91	Marron	—	—	
EP	52	5,076,665	12/31/91	Petersen	—	—	
EP	53	5,091,801	2/25/92	Ebstein	—	—	
EP	54	5,108,169	4/28/92	Mandell	—	—	
EP	55	5,130,856	7/14/92	Tichenor et al.	—	—	
EP	56	5,142,411	8/25/92	Fiala	—	—	
EP	57	5,171,266	12/15/92	Wiley et al.	—	—	
EP	58	5,182,585	1/26/93	Stoner	—	—	
Examiner: <i>[Signature]</i>			Date Considered: 12/21/04				
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Form PTO-1449
(Rev. 8-83)U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.: 63049.000088

Application No.: 10/644,112

**INFORMATION DISCLOSURE
STATEMENT**

(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date: August 20, 2003

Group: 2873

U.S. PATENT DOCUMENTS

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
91	59	5,184,156	2/2/93	Black et al.	—	—	
91	60	5,200,859	4/6/93	Payner et al.	—	—	
91	61	5,208,688	5/4/93	Ferguson et al.	—	—	
91	62	5,229,885	7/20/93	Quaglia	—	—	
91	63	5,239,412	8/24/93	Naka et al.	—	—	
91	64	5,306,926	4/26/94	Yonemoto	—	—	
91	65	5,324,930	6/28/94	Jech, Jr.	—	—	
91	66	5,352,886	10/4/94	Kane	—	—	
91	67	5,359,444	10/25/94	Piosenka et al.	—	—	
91	68	5,375,006	12/20/94	Haas	—	—	
91	69	5,382,986	1/17/95	Black et al.	—	—	
91	70	5,440,357	8/8/95	Quaglia	—	—	
91	71	5,443,506	8/22/95	Gurabet	—	—	
91	72	5,451,766	9/19/95	Van Berkel	—	—	
91	73	5,488,439	1/30/96	Weltmann	—	—	

Examiner:

Date Considered:

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PTO-1449
(Rev. 8-83)

U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.: 63049.000088

Application No.: 10/644,112

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date: August 20, 2003

Group: 2873

U.S. PATENT DOCUMENTS

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
<i>g</i>	74	5,522,323	6/4/96	Richard	—	—	
<i>g</i>	75	5,608,567	3/4/97	Grupp	—	—	
<i>g</i>	76	5,615,588	4/1/97	Gottschald	—	—	
<i>g</i>	77	5,654,786	8/5/97	Bylander	—	—	
<i>g</i>	78	5,712,721	1/27/98	Large	—	—	
<i>g</i>	79	5,728,155	3/17/98	Anello et al.	—	—	
<i>g</i>	80	5,739,959	4/14/98	Quaglia	—	—	
<i>g</i>	81	5,777,719	7/7/98	Williams et al.	—	—	
<i>g</i>	82	5,815,233	9/29/98	Morokawa et al.	—	—	
<i>g</i>	83	5,861,936	1/19/99	Sorenson	—	—	
<i>g</i>	84	5,900,720	5/4/99	Kallman et al.	—	—	
<i>g</i>	85	5,949,521	9/7/99	Williams et al.	—	—	
<i>g</i>	86	5,980,037	11/9/99	Conway	—	—	
<i>g</i>	87	6,325,508	12/4/01	Decreton et al.	—	—	

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes No
<i>g</i>	1	WO 98/27863	7/2/98	WIPO	—	—	X
<i>g</i>	2	0 154 962 A2	9/18/85	EPO	—	—	X

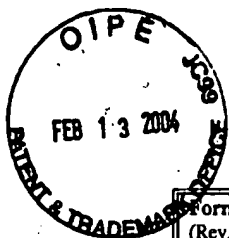
Examiner:

g

Date Considered:

12/21/04

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Sheet 7 of 10

Form PTO-1449
(Rev. 8-83)U.S. Department of Commerce
Patent and Trademark Office

Atty. Docket No.: 63049.000088

Application No.: 10/644,112

**INFORMATION DISCLOSURE
STATEMENT**

(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date: August 20, 2003

Group: 2873

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
21	3	0 233 104 A1	8/19/87	EPO	—	—		(Abstract)
21	4	0 237 365 A1	9/16/87	EPO	—	—		(Abstract)
21	5	1-237610	9/22/89	Japan	—	—		(Abstract)
21	6	2169417A	7/09/86	UK	—	—		X
21	7	2170613A	8/6/86	UK	—	—		X
21	8	55-076323	6/9/80	Japan	—	—		(Abstract)

Examiner
Initial***OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

21	1	"Focusing by Electrical Modulation of Refraction in a Liquid Crystal Cell"; Stephen T. Kowel et al., <i>Applied Optics</i> , Vol. 23, No. 2, January 15, 1984, pp. 278-289
21	2	"Computer Vision Syndrome - The Eyestrain Epidemic"; Robert A. Davis, O.D., <i>Review of Optometry</i> , September 15, 1997, pp. 80-88
21	3	"The Use of Yoked Base-Up and Base-In Prism for Reducing Eye Strain at the Computer"; Stuart M. Lazarus, O.D., <i>Journal of the American Optometric Association</i> , April 1996, pp. 204-208
21	4	<i>Eyecare Business</i> , October 1997 (entire issue)
21	5	"Vision Through a Liquid-Crystal Spatial Light Modulator"; Larry N. Thibos et al., <i>Inpress</i> , Adaptive Optics Conference, Durham, United Kingdom, 1999
21	6	"Requirements for Segmented Spatial Light Modulators for Diffraction-Limited Imaging Through Aberrated Eyes"; Larry N. Thibos et al., <i>Inpress</i> , Adaptive Optics Conference, Durham, United Kingdom, 1999
21	7	"Use of Liquid-Crystal Adaptive-Optics to Alter the Refractive State of the Eye"; Larry N. Thibos et al., <i>Optometry and Vision Science</i> , Vol. 74, No. 7, July 1997
21	8	"Electronic Spectacles for the 21 st Century", <i>Indiana Journal of Optometry</i> , Vol. 2, No. 1, 1999
21	9	"Profile: Larry N. Thibos, Ph.D. and Donald Miller, Ph.D.", <i>Indiana Journal of Optometry</i> , Vol. 2, No. 1, pp. 5-10, 1999

Examiner:

Date Considered:

12/21/04

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Sheet 8 of 10

Form PTO-1449 (Rev. 8-83)		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No.: 63049.000088		Application No.: 10/644,112	
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)							
				Applicant: Ronald D. Blum et al.			
				Filing Date: August 20, 2003		Group: 2873	
U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
<i>al</i>	1	4,787,733	11/29/88	Silva	<u> </u>	<u> </u>	
<i>al</i>	2	4,919,520	04/24/90	Okada et al.	<u> </u>	<u> </u>	
<i>al</i>	3	5,050,981	09/24/91	Roffman	<u> </u>	<u> </u>	
<i>al</i>	4	5,114,628	05/19/92	Höfer et al.	<u> </u>	<u> </u>	
<i>al</i>	5	5,682,223	10/28/97	Menezes et al.	<u> </u>	<u> </u>	
<i>al</i>	6	5,712,721	01/27/98	Large	<u> </u>	<u> </u>	
<i>al</i>	7	5,815,239	09/29/98	Chapman et al.	<u> </u>	<u> </u>	
<i>al</i>	8	5,953,098	09/14/99	Lieberman et al.	<u> </u>	<u> </u>	
<i>al</i>	9	6,086,204	07/11/00	Magnante	<u> </u>	<u> </u>	
<i>al</i>	10	6,095,651	08/01/00	Williams et al.	<u> </u>	<u> </u>	
<i>al</i>	11	6,145,987	11/14/00	Baude et al.	<u> </u>	<u> </u>	
<i>al</i>	12	6,305,802	10/23/01	Roffman et al.	<u> </u>	<u> </u>	
<i>al</i>	13	6,554,425	04/29/03	Roffman et al.	<u> </u>	<u> </u>	
Examiner: <i>[Signature]</i>				Date Considered: <i>12/21/04</i>			
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INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)							
				Applicant: Ronald D. Blum et al.			
				Filing Date: August 20, 2003		Group: 2873	
U.S. PATENT DOCUMENTS							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
EJ	14	6,609,794	08/26/03	Levine	—	—	
EJ	15	6,616,275	09/09/03	Dick et al.	—	—	
EJ	16	6,616,279	09/09/03	Davis et al.	—	—	
EJ	17	6,631,001	10/07/03	Kuisseko	—	—	
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
EJ	1	10366043	12/09/98	JP	—	—	X
a1	2	PCT/US91/04976	07/15/91	PCT	—	—	
a1	3	PCT/US97/21688	11/21/97	PCT	—	—	
Examiner:				Date Considered:			
[Signature]				12/21/04			
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Sheet 10 of 10

Form PTO-1449
(Rev. 8-83)U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket No.:
63049.000088Application No.:
10/644,112**INFORMATION DISCLOSURE STATEMENT**

(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date:
August 20, 2003

Group: 2873

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

Examiner
Initial***OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

91	1	!	"Control Optimization of Spherical Modal Liquid Crystal Lenses"; A. F. Naumov and G. D. Love, <i>Optics Express</i> , Vol. 4, No. 9, April 26, 1999, pp. 344-352					
91	2	✓	"Liquid Crystal Adaptive Lenses with Modal Control"; A. F. Naumov and M. Yu Loktev, <i>Optics Letters</i> , Vol. 23, No. 13, July 1, 1998, pp. 992-994					
91	3	✓	"Liquid Lenses Eye Commercial Breakthrough" (Internet Article under "Optics.org"); from <i>Opto & Laser</i> , November 2003					

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Date Considered:

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